NEUBIAS 2018 at a glance

Wednesday 31st of January 2018

08:45 – 09:30	Keynote Lecture 1: **Gaudenz Danuser**	Auditorium
09:30 – 10:50	Session 1	Auditorium
	Coffee	TBD
11:20 – 13:20	Session 2	Auditorium
13:20 -	Lunch	*followed by*	TBD
14:30 - 15:15	Companies Workshop 1 & 2	TBD
15:15 – 17:15	"Call For Help" Session	Auditorium
	Coffee	TDB
17:45 – 18:15	STSMs Reports 3 x 10'	Auditorium
18:15 – 18:45	FLASH talks 10 x 2,5'	Auditorium
18:45 - 19:30	Companies Workshop 3 & 4	TBD
18:45 - 20:40	Poster Session + NEUBIAS Booths	Drinks
20:45	Departure to Cathedral Concert downtown (for all)	

Thursday 1st of February 2018

09:00 – 09:45	Keynote Lecture 2: **Gene Myers**	Auditorium
09:45 – 11:00	Session 3	Auditorium
	Coffee	TBD
11:30 – 13:30	Session 4	Auditorium
13:30 -	Lunch	NEUBIAS
		MC Meeting	TBD
15:00 - 15:45	Companies WS 3-4	(on invitation)
	Coffee	
16:15 – 16:35	GOLD Sponsor Talk	Auditorium
16:35 – 17:00	Nature Methods Chief Editor	Auditorium
17:00 - 18:00	Panel Discussion	
18:00 - 18:45		Companies Workshop 1 & 2
	Open source	TBD
18:00 - 20:30	Software Lounge	
20:40	Departure to Gala dinner downtown	(for all)

Friday 2nd of February 2018

09:00 – 09:50	Session 5	Auditorium
09:50 – 10:35	Keynote Lecture 3: **Marleen DeBruijne**	Auditorium
	Coffee	TBD
11:30 – 13:00	Session 6	Auditorium
13:00	Lunch Box	
13:30	Bus Departure to Budapest Airport	
14:30	Bus departure to Budapest Airport	

NEUBIAS2018 Symposium Detailed Program

Wednesday 31st of January 2018

07:45 – 08:30	Registration
08:30 – 08:45	Welcome *by Peter Horvath & Sebastian Munck*
	Dr. Gyula Szigeti (Vice-President - National Research, Development and Innovation Office)

Keynote Lecture   Chair: Sebastian Munck

08:45 – 09:30
invited

Gaudenz Danuser, UT Southwestern (Dallas, Texas, USA)
   Discoveries of Cellular Mechanisms by Computer Vision

Session II   Chair: TBD
09:30 – 09:55
invited

Arrate Muñoz-Barrutia, University Carlos III (Madrid, Spain)
   Imaging and measuring cancer cell migration

09:55 – 10:20
invited

Charles Kervrann, INRIA (Rennes, France)
   Computational methods for fluorescence microscopy and quantitative bioimaging

10:20 – 10:35
selected

Klim Kolyvanov, Max Delbrueck Centre for Molecular Medicine (Berlin, Germany)
   A computational approach to study transcriptional regulation in C. elegans

10:35 – 10:50
selected

Assaf Zaritsky, Weizmann Institute (Tel-Aviv, Israel)
   Long-range intercellular communication in collective cell migration

11:20   Coffee

Session II   Chair: TBD

11:20 – 11:45
invited

Irene Fondón, University of Seville (Spain)
   Automatic CDR Estimation for Early Glaucoma Diagnosis

11:45 – 12:10
invited

Loïc Royer, Chan Zuckerberg Biohub (San Diego, CA, USA)
   Adaptive light-sheet microscopy for long-term, high-resolution imaging in living organisms

12:10 – 12:25
selected

Jeremy Pike, XXX University of Birmingham (UK)
   Persistent Homology as a tool to probe structure in single molecule localization microscopy datasets

12:25 – 12:40	*Mark Winter,* Drexel University (Philadelphia, PA, USA)
selected	**Live cell & organelle microscopy:**
	the browser is the microscope

12:40 – 12:55	*Jagadish Sankaran*, National University of Singapore
selected	**ImFCS-an ImageJ plugin for Imaging FCS data analysis**
	and visualization

12:55 – 13:20	*John Bogovic*, HHMI Janelia Farm (USA)
invited	**Methods and Tools for Neural Anatomy Reconstruction**
	from Light and Electron Microscopy

13:20 -	Lunch	Room TBA

	followed by	
14:30 - 15:15	**Companies Workshop 1 or 2**	Room TBA

ZEISS

We make it visible.

Leica

MICROSYSTEMS

"Call For Help"	*"Call For Help"* *aka Shout your problem, Analysis Clinics....*
	Chair: Laure Plantard, Simon Noerrelykke, Szymon Stoma

15:15 – 17:15	Interactive Session: *Life Scientists and BioImage Analysts facing Image Analysis Roadblocks in their research projects have submit ted their problem, Developers and Analysts will address them, build and benchmark Solutions. 10' per project with plenary discussion*

17:15	Coffee !!!

17:45 – 18:15	*NEUBIAS: Short Term Scientific Missions Reports*
	Victor Caldas **- Imaging symbiotic networks across scales**
	Alex Hargreaves - **Analysis Workflows to resolve Aniline Blue Assay for Sperm Chromatin Condensation**
	Patricia Garcia-Cañadilla -
	Detailed characterization of scar and fibrous tissue in hearts using high resolution phase-contrast X-ray imaging

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18:15– 18:30	*FLASH TALKS* 18:00 – 18:30	
selected	*Allan Sauvat*,	**ColocalizR: an R-based application for colocaliza-tion analysis in High-throughput**
	Florian Levet,	**Polygon-based Colocalization Analysis for Multicolor SMLM Data**
	Juan Manuel Garcia Arcos,	**Bleb-based migration has inverted contact guidance on nanogrooves**
	Devrim Ünay,	**Robustness of Local Invariant Feature Descriptors extracted from fixed-grid locations in Laser Scan ning Microscopy Images**
	Tong Li,	**MAARS: a novel high-content acquisition software for the analysis of mitotic defects in fission yeast**
	Leandro Aluisio Scholz,	**Tracing biofilaments: The trials and tribula tions of newcomers to the area of image analysis**
	Anastassia Mikhailova,	**Automated analysis of T-cell contacts and the formation of the immune synapse in medium throu ghput approaches.**
	Martin Maška,	**A Model-Based Generator of Synthetic 3D Ti me-Lapse Sequences of Single Motile Cells with Growing and Branching Spikes**
	David Hörl,	**A Software Framework for Image Analysis Driven Microscope Control**

	Poster Session	*PARALLEL TO*	*Companies Workshops*
18:40 –	**POSTERS Session - START**	18:40 –	**Companies Workshop 3 or 4**
	+ NEUBIAS Booths		
	+ Drinks		- 19:25 (End of workshops)

– 20:40	**POSTERS Session - END**

20:45   *Departure to Cathedral, Concert.*

Thursday 1st of February 2018

Keynote Lecture

Chair: Florian Jug

09:00 – 9:45	**Gene Myers**, MPI for Cell Biology & Genetics (Dresden, Germany) **Computational Optics**

Session III   *Chair: TBA*

9:45 – 10:10 *invited*	*Natasa Sladoje-Matic*, CIA - University of Uppsala (Sweden) **Improved distance measures between images and their performance in biomedical applications**
10:10 – 10:35 *invited*	*Virginie Uhlmann*, École Polytechnique Fédérale de Lausanne (CH) **Continuous Representations in Bioimage Analysis: a Bridge from Pixels to the Real World**
10:35 – 11:00 *invited*	*Ajay Limaye,* Australian National University (Canberra, Australia) **Drishti/Drishti Prayog - Volume Exploration and Presentation Tool**

Coffee break

Session V   *Chair: TBA*

11:30 – 11:55 *invited*	*Anna Kreshuk,* HCI, University of Heidelberg (Germany) **ilastik: latest developments and future plans**
11:55 – 12:20 *invited*	*Christian Dietz,* University of Konstanz (Germany) **KNIME Image Processing: Integrating and Enhancing Open Source Bioimaging Software**
12:35 – 12:50 *selected*	*Beth Cimini,* The Broad Institute (Boston, MA, USA) **High-Throughput Morphological Analysis of Complex Sys tems Using CellProfiler and CellProfiler Analyst**
11:45 – 12:00 *selected*	*Richard Domander*, The Royal Veterinary College (London, UK) **The BoneJ2 anisotropy plugin - a case study in best practices in research software engineering**
12:00 – 13:05 *selected*	*Federico Barabas, KTH Royal Inst. of Techn. (Stockholm, Sweden)* **Open-source python software in super-resolution fluores cence microscopy: from instrument control to quantitative data analysis**

| 13:05 - 13:30 invited | *Tobias Pietzsch*, Max Planck Institute for Cell Biology and Genetics (Dresden, Germany) |
| | **TrackMate, MaMuT, Mastodon -- Evolution of Track Editing Tools in Fiji** |

13:30 – Lunch | NEUBIAS Management Committee **(on invitation only)**

15:00 - 15:45 **Companies Workshop 3 or 4**

15:45 Coffee

16:15 – 16:35	***Gold Sponsor Session*** Chair: TBA
	Sebastian Rhode, Carl Zeiss Germany
	New Tools and Developments for Image Handling and Processing inside the ZEN world

16:35 – 17:00	***Special Session*** Chair: Peter Horvath
invited	*Natalie De Souza,* Nature Methods, Chief Editor (NY, USA)
	Imaging and image analysis at Nature Methods

| 16:35 – 17:00 | ***Panel Discussion***   Chair: Kota Miura |

OsSL   *in PARALLEL TO*   *Companies Workshops*

18:00 - 20:30   **18:00 - 18:45**

3 rotations:

Open source   18:00 - 18:50   **Companies**
Software Lounge   19:40   **Workshop 1 or 2**

Standing (and drinking...)
over the shoulders of (Open source) giants...

ilastik, Fiji, KNIME, Cytomine,
Drishti/Drishti Prayog, CellProfiler, QuimP,
Advanced Cell Classifier, DeBIAS,
ClearVolume/Mastodon/Sciview, CellTool,
CPI scripting, GcoPS, DiversePathJ,
SIMCheck, ImFCS, BoneJ2,
Open Source Python for Super-resolution, more..

20:45   *Departure to Gala dinner*

Friday 2nd of February 2018

Session V	Chair: TBA
09:00– 09:25 *invited*	*Peter Horvath*, University of Uppsala (Sweden) **Life beyond the pixels: single-cell analysis using machine learning and image analysis methods**
09:25 – 09:50 *invited*	*Florian Jug*, Max Planck Institute for Cell Biology and Genetics (Dresden, Germany) **Content-Aware Image Restoration and Quantitative Downstream Analysis**

Keynote Lecture   Chair: TBA

09:50 – 10:35 *invited*	**Marleen De Bruijne**, Erasmus MC Rotterdam (the Netherlands) / University of Copenhagen (Denmark) **Machine learning imaging biomarkers**

Coffee

Session VI	Chair: TBA
11:05 – 11:30 *invited*	*Jason Swedlow*, University of Dundee (Scotland, UK) **The Image Data Resource: a platform for publishing, integra ting and mining biological imaging data at scale**
11:30 – 11:45 *selected*	*Vannary Meas-Yedid,* Institut Pasteur (Paris, France) **Computer-assisted Inflammation Analysis of Kidney-Graft biopsy to improve risk stratification in allograft rejection.**
11:45 – 12:00 *selected*	*Lijuan Zhang,* Vienna Biocenter Core Feclities (Vienna, Austria) **COST Action: BioBrillouin**
12:00 - 12:15 *selected*	*Martin Jones*, The Francis Crick Institute (London, UK) **Battling Big Data in Electron Microscopy**
12:15 - 12:30 *selected*	*Ella Bahry*, Max Delbrück Center for Mol. Medicine (Berlin, Germany) **Correlative Light-Electron Microscopy Based High Resolu tion Nuclear Atlas of C. elegans Dauer**
12:30- 12:45 *selected*	*Paul Villoutreix,* Weizmann Institute (Tel Aviv, Israel) **The Embryo Digital Atlas**
12:45- 13:00 *selected*	*Juliana Pfeil,* Technical Univ. of Applied Science (Widau, Germany) **Computer vision for empowering of mobile microscopy in blood analysis**
13:00	End Message, Lunch Box and Departure Buses to Airport from 13:30